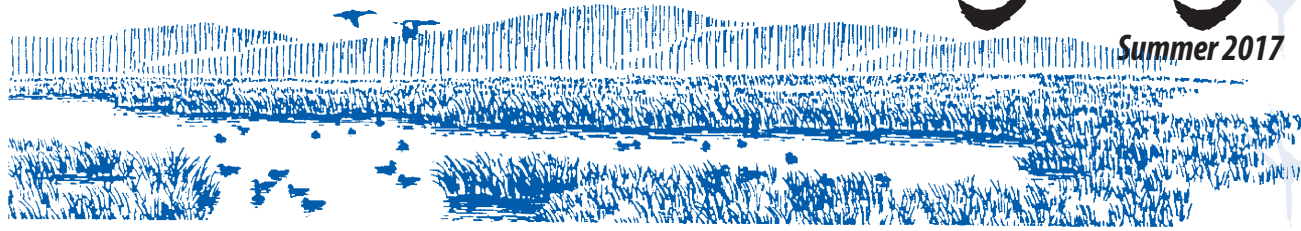


The Flyway

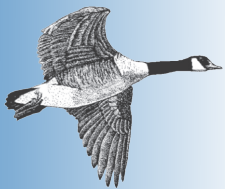
Summer 2017



Quarterly newsletter for Billy Frank Jr. Nisqually and Grays Harbor National Wildlife Refuges

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Save the Date!

The Nisqually Watershed Festival will be held Saturday, September 30, at Billy Frank Jr. Nisqually NWR

Black Cottonwood: Sentry of the River

By Davy Clark

Drifts of ethereal white fluff are part of the magic of spring here at the Refuge. On a breezy day in late May it often appears to be “snowing” in the riparian forest.

This white fluff gently falling from above is actually the seed of a true treasure of the Refuge, Black Cottonwood trees. Standing tall and straight, the Cottonwoods are among the largest trees visitors will find along the Twin Barns Loop Trail. Their deeply furrowed grey bark can look old and weathered, but don't let appearances fool you; Cottonwoods are a world apart from the ancient cedars and hemlocks

of old growth forests. A typical Cottonwood would be lucky to make it beyond a few hundred years. Compare that to a 2,000 year old cedar! The short life of cottonwoods has a lot to do with the habitat they are so well adapted to colonize. Cottonwoods are masters of the tumultuous life found in a flood plain. They are adapted to a life punctuated by extreme flooding that, every so often, can even reshape the river corridor that they call home. Life is fast and short for these trees. In fact, they are among the fastest growing wild trees on our planet. The life-giving waters of the Nisqually River provide them with crucial

sustenance to sustain their impressive speed of growth, at least by tree standards. Though these grand trees of the riparian forest might live for 200 years, many will mature by 60 years as they

reach heights approaching 200 feet. While the river supplies the Cottonwood with water, the Cottonwood provides roots to stabilize the river banks which reduce erosion. The Cottonwood also provides much needed shade to keep the water of the river cool and hospitable for salmon.

Not surprisingly, Black Cottonwood employs multiple

strategies to reproduce in such a fluid environment. The most noticeable of its reproductive strategies are the incredible abundance of seeds each tree produces. Every seed is adorned with a tuft of white cottony hairs that are sent sailing through the air in even a light breeze. An individual tree will produce huge numbers of seeds, most of which will only find their way to unsuitable soil. For the seeds that happen to find their way to soils wet enough to germinate they will be quickly smothered if there is much competition at all. Even grasses can out-compete a young cottonwood trying



Continued on page 2

On the Wing

By Glynnis Nakai, Refuge Manager

For seven and a half years the tides of South Puget Sound have been reconnecting channels in the Nisqually Delta. These channels not only distribute water but also nutrients, invertebrates, and sediment to areas cut off from tidal influence for 100 years after the Brown Farm Dike was constructed.

One of these channels flows under the Nisqually Estuary Boardwalk Trail bridge. When the boardwalk was completed in 2011, the width of the channel was less than 10 feet. With time and daily tides, the chan-



nel has widened enough to compromise the existing bridge. This summer, the boardwalk will be realigned and a 90-foot bridge with two 40-ft. bridges will be constructed over the channel. Work will begin in August. The boardwalk will remain open for as long as possible with an expectation of full closure no more than 60 days as the reconnection is made. We will post updates on the boardwalk progress at the visitor facilities and on the Refuge website (www.fws.gov/refuge/billy_frank_jr_nisqually). Thank you for sup-

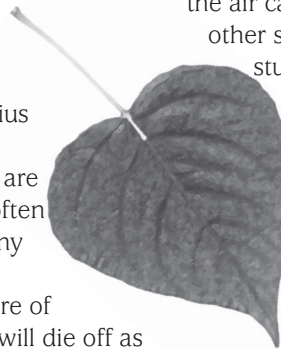
porting our need to repair the Nisqually Estuary Boardwalk Trail. We will continue to provide such a unique experience of walking above the water and mudflat of the Nisqually Delta. ✎

The boardwalk will remain open for as long as possible with an expectation of full closure no more than 60 days.

Black Cottonwood

From previous page

to stake its claim. And here is part of the genius of the Cottonwood; the abundance of seeds produced by each tree means that areas that are wet enough for the cottonwood to grow are often completely covered by cottonwood seed. Many young seeds will sprout in an area where the only species they must compete with are more of their own kind. Most of these young sprouts will die off as only the crème de la crème will survive this early stage of life. For the cottonwood, the earliest stages of life are the hardest to survive. While floating seeds wafting through



the air can often steal the show, the Cottonwood holds other secrets to reproducing. Clones may sound like the stuff of science fiction but for many plants cloning is simply a natural means of reproduction. Clones are sometimes made by a broken branch falling down to the river below. The branch is carried downstream and under just the right conditions it will wash ashore or become lodged in just the right place for a new cottonwood to grow. It is here that a marvel of cottonwood occurs as it can shoot new roots from the branch and grow as an exact genetic copy of the tree from which it came.

Seeds and clones aside, the Cottonwood is also responsible for the sticky yellow-orange buds which are scattered across the riparian forest spur trail in early spring. For a few weeks each year these half-inch buds shaped like the tip of a fountainhead pen can be easily found on the bottom of walking shoes at the end of your time spent along the trail. The scent of these buds is quite floral, a hint of the sensational aroma that fills the river valley each year during our first warm days after long winters. The sticky resin coating these buds contains antibacterial properties and is commonly used in salves to treat minor cuts and abrasions. And humans are not the only creatures to find the resin useful, bees have also been found to collect the resin to protect their hives and prevent decay!

The next time you visit the Refuge, take a detour into the riparian forest to find a Cottonwood tree. Stand close to its trunk and peer up, feel the deep furrows of the bark, and if your timing is just right, enjoy the floral scent that fills the air or the "snow" that practically glows when the light hits it just so. As you do, remember that just as the cottonwood has so much that makes it a true treasure of the Refuge, so do each and every other plant and animal that call this Refuge home. ✎

Published quarterly by the Friends of Nisqually National Wildlife Refuge Complex.

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www.fws.gov/refuge/billy_frank_jr_nisqually

www.fws.gov/refuge/grays_harbor

Volume 9, Number 2

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Save trees, think green.

To receive *The Flyway* electronically, email
nisqually@fws.gov

Summer Guided Walks

July

Saturday, July 1

Birds of a Feather: Take Flight on a Bird Walk

8:30am - 12:00pm

Experience the thrill of seeing a Peregrine Falcon, the world's fastest bird, or hearing a woodpecker pecking away, up to 20 pecks per second! Join experienced birder David Richardson for a guided walk full of the sights and sounds of one of the Refuge's largest treasures—the birds! Meet at the landing overlooking the pond at the Visitor Center.

Sunday, July 2

Home Sweet Home

11:00am - 12:00pm

Enjoy a short walk through the various habitats of the Refuge, exploring all there is to see! Along the way, hear some tales of the Squalli Absch natives, farmer Brown, and the events surrounding the Medicine Creek Treaty. Meet Sue Stone at the flagpole in front of the Visitor Center

Saturday, July 8

Birds of a Feather: Take Flight on a Bird Walk

8:30am - 12:00pm

Many species of birds, from the tiny Rufous Hummingbird to the majestic Bald Eagle, nest on the Refuge. Join experienced birder Terry Hodge for a guided walk full of the sights and sounds of one of the Refuge's largest treasures – the birds! This walk is especially suited for new birders and families. Meet at the landing overlooking the pond at the Visitor Center.

Sunday, July 9

The Nisqually and Medicine Creek: Where Nature, Culture and History Converge

1:00pm - 3:00pm

Learn about the events surrounding the signing of the Medicine Creek Treaty; explore how the Nisqually people came to the Nisqually delta and how their lives changed with the settlement of Europeans. Lynn Corliss leads you down history's winding path, where you will discover important things about the people who enjoyed this land before you did. Meet at the flagpole in front of the Visitor Center.

Saturday, July 15

Raptors of the Delta

1:00pm - 2:00pm

The Peregrine Falcon, the Bald Eagle, the Northern Harrier, and the Great Horned Owl: a variety of amazing raptors can be found on the delta and each has a story to tell. Experienced birder Richard Cormier will reveal unique aspects of a raptor's journey through life in this short, illustrated program. Meet in the Visitor Center Auditorium.

Sunday, July 16

A River Runs Through It

11:00am - 12:30pm

Ever wonder why skunk cabbage stinks? Ever wonder if all woodpecker holes are the same? Everything has a story to tell, and Ellen Sweetin is here to help translate. Join her on a walk through the remarkable riparian forest and get to know the incredible inhabitants. All ages welcome, curious minds encouraged. Meet at the landing overlooking the pond at the Visitor Center.

Saturday, July 22

Raptors of the Delta

1:00pm - 2:00pm

The Peregrine Falcon, the Bald Eagle, the Northern Harrier, and the Great Horned Owl: a variety of amazing raptors can be found on the delta and each has a story to tell. Experienced birder Richard Cormier will reveal unique aspects of a raptor's journey through life in this short, illustrated program. Meet in the Visitor Center Auditorium.

Sunday, July 23

A River Runs Through It

11:00am - 12:30pm

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Saturday, July 29

A River Runs Through It

11:00am - 12:30pm

Ever wonder why skunk cabbage stinks? Ever wonder if all woodpecker holes are the same? Everything has a story to tell, and Ellen Sweetin is here to help translate. Join her

on a walk through the remarkable riparian forest and get to know the incredible inhabitants. All ages welcome, curious minds encouraged. Meet at the landing overlooking the pond at the Visitor Center.

Sunday, July 30

Our Amazing Plant World

1:00pm - 3:00pm

Summer is the perfect time to experience the Refuge plant life in all its diversity! Join Dave Zink on a nature walk through the Refuge—all the while learning about plant-insect interactions, adaptations for survival, and other interesting facts. You only live once: Stop to smell the flowers! Meet at the flagpole in front of the Visitor Center.

August

Saturday August 5

Our Amazing Plant World

1:00pm - 3:00pm

Summer is the perfect time to experience the Refuge plant life in all its diversity! Join Dave Zink on a nature walk through the Refuge—all the while learning about plant-insect interactions, adaptations for survival, and other interesting facts. You only live once: Stop to smell the flowers! Meet at the flagpole in front of the Visitor Center.

Sunday August 6

Home Sweet Home

11:00am - 12:00pm

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Saturday August 7

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Sunday August 13

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1:00pm - 3:00pm

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Sunday August 20

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Saturday August 26

A River Runs Through It

11:00am - 12:30pm

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Sunday August 27

Our Amazing Plant World

1:00pm - 3:00pm

Summer is the perfect time to experience the Refuge plant life in all its diversity! Join Dave Zink on a nature



walk through the Refuge—all the while learning about plant-insect interactions, adaptations for survival, and other interesting facts. You only live once: Stop to smell the flowers! Meet at the flagpole in front of the Visitor Center.

September

Saturday September 2

Birds of a Feather: Take Flight on a Bird Walk

8:30am - 12:00pm

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Sunday September 3

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11:00am - 12:30pm

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1:00pm - 2:00pm

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Saturday September 23

A River Runs Through It

11:00am - 12:30pm

Ever wonder why skunk cabbage stinks? Ever wonder if all woodpecker holes are the same? Everything has a story to tell, and Ellen Sweetin is here to help translate. Join her on a walk through the remarkable riparian forest and get to know the incredible inhabitants. All ages welcome, curious minds encouraged. Meet at the landing overlooking the pond at the Visitor Center.

Sunday September 24

Home Sweet Home

11:00am - 12:00pm

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2017 Summer Lecture Series

The 30th Annual Summer Lecture Series at Billy Frank Jr. Nisqually NWR will be held Wednesday evenings at 7:00 p.m. in the Norm Dicks Visitor Center auditorium in July and August. The auditorium seats 100 people and the doors open at 6:00 p.m. and all lectures are free. Thanks to Friends of Nisqually NWR Complex for their support of the summer lecture series. ✎

July 5

A Tale of Two “Puffin”

Dr. Peter Hodum

Associate Professor, Biology Department,
University of Puget Sound

Seabirds are often used in ecosystem monitoring programs because they are ubiquitous and relatively well studied, and because some species are tightly linked to their habitats, prey resources, and oceanographic conditions. Since 2004, we have been assessing the status and trends of two closely related “puffins”, the Tufted Puffin and Rhinoceros Auklet, on coastal and Salish Sea colonies. During his presentation, Dr. Hodum will compare and contrast population trends, diet and reproduction of these puffins on both Salish Sea and Outer Coast colonies, with implications for the ecological health of the Salish Sea ecosystem and the conservation status of these species.

July 12

Tree Kangaroos, Communities, and Conservation: Reaching across the Pacific Rim to save wildlife

Lisa Dabek, PhD

Senior Conservation Scientist/Director of the Papua New Guinea Tree Kangaroo Conservation Program, Woodland Park Zoo
Papua New Guinea is home to some of the most unusual, diverse, and endangered birds and mammal species, including the tree kangaroo. The Tree Kangaroo Conservation Program (TKCP) is the Woodland Park Zoo’s flagship international conservation program, focused on conserving the endangered Matschie’s tree kangaroo (*Dendrolagus matschiei*) and the habitat in which it lives. TKCP has helped establish and manage Papua New Guinea’s first and only nationally-protected Conservation Area. TKCP is a holistic program supporting habitat protection for a wide range of threatened species, as well as initiatives to support local stewards and enhance local community livelihoods, education, and health.

July 19

Native People & Cedar— The Tree of Life

Frances V. Rains, Ph.D.

Professor, The Evergreen State College

Across the millennia, the Coast Salish Nations, their cultures and their lives, have become intertwined with the gi-

ant Cedar trees of the Pacific Northwest. This talk will explore some of the uses of the mighty cedar, from daily life to special gatherings; and from the land to the sea.

July 26

The Hidden Lives of Owls

Leigh Calvez

Author of the *New York Times* bestselling book *The Hidden Lives of Owls: The Science and Spirit of Nature’s Most Elusive Birds*

Naturalist Leigh Calvez pursues eleven different owl species—including the Barred, Flammulated, Northern Saw-Whet, Northern Pygmy, Northern Spotted, Burrowing, Snowy, and Great Gray. Calvez makes the science entertaining and accessible through the stories of the people who are obsessed with these birds and her own avian adventures in the field.

August 2

For Heaven’s Sake Animal Rescue and Rehabilitation

Claudia Supensky, Director/Founder and
David Supensky, Project Manager

Wildlife Rehabilitation licensed with the Washington State Department of Fish & Wildlife
This presentation is intended to inform and educate attendees about wildlife rescue and rehabilitation of various species, and public involvement/action when finding animals that need help. Our mission: “FHSARR is dedicated to the preservation of orphaned and injured animals (wildlife) by providing quality care and treatment in a safe, secure and nurturing environment while preparing them for release into their natural habitat.” FHSARR is an all volunteer non-profit 501(c)(3) organization.

August 9

Global Ocean - Human Culture: Past, Present and Future

John R. Delaney, Ph.D.

Professor of Oceanography, University of Washington, and TED talk speaker

The well-being of all life on earth depends on our planetary ocean. The ocean also plays a key role the health of our global economic framework. Yet, most citizens of the world do not appreciate the ocean’s interactive complexity, the diversity of its utility, and its underlying influence on past and present cultural changes. The powerful roles the

ocean plays in terms of human history, trade, commerce, resources, hazards, science, education, warfare, defense, the arts, entertainment and the modulation of our climate are largely unrecognized by most members of our global society. This presentation explores and expands on these and related themes with the goal of developing an integrated awareness of the central, interconnected functions that our global ocean basin plays in our planetary society of nations and individuals.

August 16

Wet and Wild! Marine Wildlife Medicine in the Pacific Northwest

Lesanna L. Lahner, DVM, MPH

Executive Director and Veterinarian of Sealife Response + Rehab + Research (SR3)

Dr. Lahner's passion and practice is to promote conservation and improve ecosystem and community health through exceptional veterinary medical care and scientific research. She is a wildlife veterinarian that specializes in sea life. In addition to her role with SR3, Dr. Lahner serves

as the veterinarian for Sarvey Wildlife Rehabilitation Center and works closely with agencies that oversee stranded or injured marine mammals and sea turtles in Washington and Oregon, including NOAA and USFWS.

August 23

The Cocktail That Kills Coho: Stormwater Runoff Problems and Solutions

Jenifer McIntyre

Assistant Professor Aquatic Toxicology
Washington State University - Puyallup
REC

When it rains, a toxic soup of chemicals wash off roads and other impervious surfaces into nearby water bodies. Dr. McIntyre will give an overview on the toxic problem of urban stormwater runoff, its unique ability to kill coho, and some of the solutions that scientists and practitioners are developing.

Diary of a Shorebird Lady

The Grays Harbor Shorebird Education Program

By Vashti Engebretson

I stand at the end of the Sandpiper Trail and watch as groups of 3rd graders gather around eagerly reaching for binoculars so that they can get a closer look at the shorebirds that they have become experts on. I hear exclamations of "ooh, wow!" or "they're eating invertebrates, right?" or "you can see the whole mudflat!" My chest swells with pride at how much these students have grown with our monthly lessons. At the beginning of the school year, I began with the question, "What is a shorebird?" In almost every classroom there was silence. After seven months of lessons, the 500 3rd and 4th grade students I have served in Grays Harbor County now understand shorebird migration, habitat, anatomy, behavior, and diet.

My name is Vashti Engebretson, and I began serving as the education coordinator for Grays Harbor National Wildlife Refuge with Washington Service Corps last September. I came into the position to expand my experience in environmental education after finishing my degree in biology, and to gain insight into what I would like to pursue as a career. As I near the end of my service term, I reflect on everything I have learned alongside my

students. I have learned quite a bit about shorebirds of course, but I have also deepened my passion to encourage environmental awareness in young students. These students have most definitely grown in their environmental awareness this year.

As I now enter my final lessons, I explain to my students that they have become more knowledgeable about shorebirds than the average adult, and they now have the responsibility to share that knowledge with their community. They solemnly nod their heads in agreement and put their hands on their hearts as they take a pledge to forever be "Shorebird Guardians." It is less important that these students remember a definition. I would rather they maintain this awareness of the significance of natural habitat for a diversity of species, and that they feel empowered in their ability to support the protection of such habitat. ✎



22 years of celebration!

By Jenn Cutillo

In a quiet corner along the edge of the Grays Harbor Airport is a boardwalk trail with a view of a willow/alder forest, salt marsh, and mudflat. It might not seem like much to some, but it's one of the most important places on the planet to others. Have you ever taken a long distance journey many times? Traversing the same route back and forth repeatedly? When you do this, you quickly learn the best places to stop along the way. Important information like this can be vital!

Shorebirds make these kinds of journeys every year and they too need to know where to fuel up and rest for their trip.

What makes Grays Harbor NWR so special is its elevation. The mud flat here is just ever so slightly higher than other mudflats along the coast. When the tide comes in, other places are underwater before Grays Harbor NWR. That means it's the only restaurant in the area that's open late! And for migrating shorebirds, more time spent eating and resting can mean the difference between life and death.

Not only is it open later than other places, it has some high quality and high quantity food. This is very important, because the numbers of birds relying on this pit stop are staggering. The peak numbers of birds (the most seen at any one time) estimated during a survey were 23,760 dunlin and 18,100 western sandpipers on April 29th. But that's not all...

Other surveys conducted within the same time frame provided peak numbers of: 102 black-bellied plovers, 380 semi-palmated plovers, 22 least sandpipers, 297 red knots, 47 dowitcher spp, 8 yellowlegs spp., 3 whimbrels, 1 ruddy turnstone, and 3 red-necked phalaropes.

These mass migrations have been occurring on the planet since long before humans invented binoculars. But what a great thing that we did! We get the opportunity to witness these birds on their brief stopovers. What better reason is there to celebrate?



Mia Tiffany, winner of this year's shorebird poster contest

This year's Grays Harbor Shorebird and Nature Festival, held May 5-7, offered visitors a chance to see many of the diverse species listed above.

Festival headquarters at Hoquiam High School had shuttles to take folks out to the refuge and back. Field trips allowed enthusiastic birders a chance to see other great shorebird locations along the coast. A variety of vendors, food, and great activities for kids and families took place in the High School. One highlight was the Shorebird Festival Poster Contest award's ceremony where Mia Tiffany, a first grade student of Ocosta Elementary, went home with the Best of Show ribbon. Look for her artwork in next year's festival advertisement posters.

Keynote speaker Tim Boyer, award winning nature photographer and master birder, presented "Understanding Shorebirds, The Miracle of Migration". Audience members learned that understanding the remarkable journeys of shorebirds demonstrates the urgent necessity of a global conservation effort.

After the Saturday annual dinner, Dr. Julia Parrish educated and entertained with a riveting presentation on the Coastal Observation and Seabird Survey Team and the vital importance of citizen science. Generous dinner guests then donated over \$5000 to the Grays Harbor NWR education fund managed by Grays Harbor Audubon Society. This record amount of money will be used to directly support classroom presentations and field trips to Grays Harbor NWR for local students. Thanks to all who contributed to this important effort in our community.

Over 1,300 visitors participated in festival activities this year, and the whole event required a herculean and deeply appreciated effort to run and coordinate. Thank you to all the volunteers who came out for the weekend to support the event and make it possible each year. Also, a big thanks to the Festival's sponsors including the City of Hoquiam, the Grays Harbor Audubon Society, Nisqually and Grays Harbor NWRs, the Washington Conservation Corps, the Washington Service Corps/AmeriCorps, the Port of Grays Harbor, and many others!

If you missed the festival, the shorebirds can be seen on their incredible journey back south from mid-July through September. Otherwise the 23rd Grays Harbor Shorebird and Nature Festival is set for April 27-29, 2018. ✎

Friends of Nisqually NWR Complex

is a 501(c)(3) nonprofit organization established in 1998 to promote conservation of the natural and cultural resources and fund educational and outreach programs at

Nisqually National Wildlife Refuge Complex.

Photo by Art Pavey

New and Renewing Friends Membership/Spring 2017

Senior/Student (\$15)

Marcie Cleaver
Steve Coombs
Helen Engle
Loretta Jones
Gerald Julian
Linda M. Langston
Steven MacDonald
Miho and Charles Pell
Russ Smith
Polly Taylor
Louise Wackerle
Kati Walsh
Joseph Geldmacher

Individual (\$25)

Mary Brasseaux
Karen Fraser
Cori Halverson

Family (\$50)

Tom and Barbara A. Cook
Lynn Graves and Rob Morgan
James and Ruth Hoss
John and Sylvie Howard
Kim Malcom
Beth Morrison and Geoff Crooks
Alice Nevue and Family
Michael and Barbara Silverstein
Brian Sullivan and
Anna Leon-Guerrero
John and Elly Walkowiak

Supporting (\$100)

Nancy Alden
Lynn Jones
Kristin Knopf and Brian Hanners
Kristin and Michael Stewart
David and Kelly Ward
Kimberly and Craig Watson
Doug and Lillian Ryan
Jean Takakawa



Join Friends of Nisqually NWRC!

Name _____
Address _____
City/State/Zip _____
Email _____

- ☐ Please send information on making Friends of Nisqually NWRC a beneficiary of my estate.
☐ Check here to receive an electronic version of *The Flyway* newsletter by email.

Individual/Family Memberships

- ☐ \$15 Student/Senior
☐ \$25 Individual
☐ \$50 Family
☐ \$100 Supporting
☐ \$250 Partner
☐ \$500 Patron
☐ \$1000 Benefactor

Corporate/Business Memberships

- ☐ \$250 Business Sponsor
☐ \$500 Community Partner
☐ \$1000 Sustaining Business
☐ \$2500 Corporate Patron
☐ \$5000 + Corporate Benefactor

Please make checks payable to: Friends of Nisqually NWRC, 100 Brown Farm Rd, Olympia, WA 98516

Your tax deductible contribution will help preserve the unique habitats, fish, and wildlife of the Nisqually Delta and the Grays Harbor Tideflats.

OFFICE USE Rec'd _____ Mo _____ New _____ Renew _____ Ent _____ Mld _____

**Friends of Nisqually
National Wildlife Refuge**

100 Brown Farm Road
Olympia WA 98516

Non-Profit Org
US Postage

PAID

Olympia WA
Permit #206

Return Service Requested

... conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people...

You are invited to the 28th Annual

Nisqually Watershed Festival!

Saturday, September 30th, at Billy Frank Jr. Nisqually NWR, from 10am–4pm
All events are free(except the food!)

Great fun for the whole family. Join us and celebrate the cultural, economic, and natural resources of the Nisqually Watershed! **Parking at River Ridge High School with shuttles to the Refuge every 15 minutes from 7:00AM-5:45PM.**



- ▶ Music and live animal presentations
- ▶ Tours and guided walks throughout the day
- ▶ Great educational displays from around the area
- ▶ Red Salmon tent, storytelling, and critters parades
- ▶ Marine viewing tank
- ▶ Check out the Nature Explore Area for children
- ▶ And, of course, the yummy food!

For more information, go to
www.nisquallyriver.org
or call **(360) 753-9467**